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# A New Species of *Oxytropis* (Leguminosae) from Xizang (Tibet) in China

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**ABSTRACT.** A new species of *Oxytropis* (Leguminosae) from Xizang (Tibet) in China, *O. qamdoensis* X. Y. Zhu, Y. F. Du & H. Ohashi, is described and illustrated. The new species is very similar to *O. ochrantha* (sect. *Baicalia* Steller ex Bunge) and shares with it verticillate and opposite leaflets and glandular hairs, but differs in having leaflets with 9–11 whorls per leaf, the standard bilobed at the apex, wings emarginate at the apex, the beak of the keel-petals 1.0–1.5 mm long, and pods with white-tinged hairs.

**Key words:** China, Leguminosae, *Oxytropis*.

*Oxytropis* DC., a genus belonging to the tribe Galegeae of Papilionoideae in the Leguminosae, comprises about 300 species occurring in cold mountainous regions of Europe, Asia, and North America, and is most numerous in Central Asia (Polhill, 1981). Bunge (1874) classified 181 species of *Oxytropis* into 4 subgenera and 19 sections. For Chinese *Oxytropis*, 125 species, 4 varieties, and 4 forms were grouped into 3 subgenera and 20 sections (Zhu & Ohashi, 2000). Section *Baicalia* Steller ex Bunge now contains 16 species (including the one described here), which are a part of 119 species in the subgenus *Oxytropis* in China. The section can be distinguished from the other sections by having verticillate and opposite leaflets and plants with glands (Zhu & Ohashi, 2000).

***Oxytropis qamdoensis*** X. Y. Zhu, Y. F. Du & H. Ohashi, sp. nov. TYPE: China. Xizang (Tibet): Qamdo Xian, Karuo Zhen, Karuo Village, Jimu Shan, within shrubs on dry and stony slope, 3215–3250 m, 16 Aug. 2000, X. Y. Zhu & Y. F. Du 20074 (holotype, PE; isotypes, PE, TUS). Figure 1.

Haec species ab *O. ochrantha* foliolis 9–11 verticillis, vexillo bilobo ad apicem, alis emarginatis ad apicem, ros-

tris carinae 1.0–1.5 mm longis, legumine albo-pubescenti differt.

Acaulescent perennial herb, 7–20 cm tall. Leaves with white hairs, 5–8 cm long; leaflets verticillate, or opposite at the upper part of leaf axis, acuminate or acute at apex, 9 to 11 whorls per leaf, 4(6) per whorl, ovate or oblong-ovate, with white hairs on both surfaces, 4–7 mm long, 1.5–5.0 mm wide, young leaflets with densely gray-white hairs; stipules with white hairs, herbaceous, narrowly triangular, 3.5–8.8 mm long, 2.0–3.0 mm wide, connate with petiole at base. Racemes 5–13.5 cm long, longer than leaves at fruiting time, shorter than leaves at flowering time; bracts with white hairs, ovate, 4.5–7.5 mm long, 2.0–3.0 mm wide. Calyx with white hairs, campanulate, 10–12 mm long, 5-lobed, lobes lanceolate, 4.0–6.0 mm long, ca. 0.1 mm wide, tube ca. 6.0 mm long. Corolla white; standard broadly obovate, 16–19 mm long, 6.0–7.0 mm wide, bilobed at apex; lamina narrowed to base; wings clawed, lamina obovate, ca. 8 mm long, ca. 3 mm wide, emarginate at apex, tapering to a claw, claw ca. 7 mm long, ca. 0.5 mm wide, auriculate at base, auricle ca. 3 mm long, ca. 1.5 mm wide; keel-petals clawed, 11.5–17 mm long, lamina oblong, 4.5–8.0 mm long, 2.5–3.0 mm wide, claw 7.0–9.0 mm long, ca. 1.0 mm wide, auriculate at base, auricle 1–1.5 mm long, 1–1.5 mm wide, beak 1.0–1.5 mm long. Androecia diadelphous, ca. 11 mm long. Ovary pubescent, tubular, ca. 3 mm long, ca. 0.5 mm wide, style incurved, ca. 7.5 mm long. Pods with white hairs, ovoid, membranous, ca. 16.0 mm long, ca. 7.0 mm wide, with beak at the top of pod, ca. 6.5 mm long, seeds cordiform, 1.78–2.20 mm long, 1.50–1.68 mm wide. Flowering and fruiting July–August.

**Distribution.** Known only from Qamdo Xian, with shrubs on dry and stony slopes, Xizang, China; 3215–3250 m.



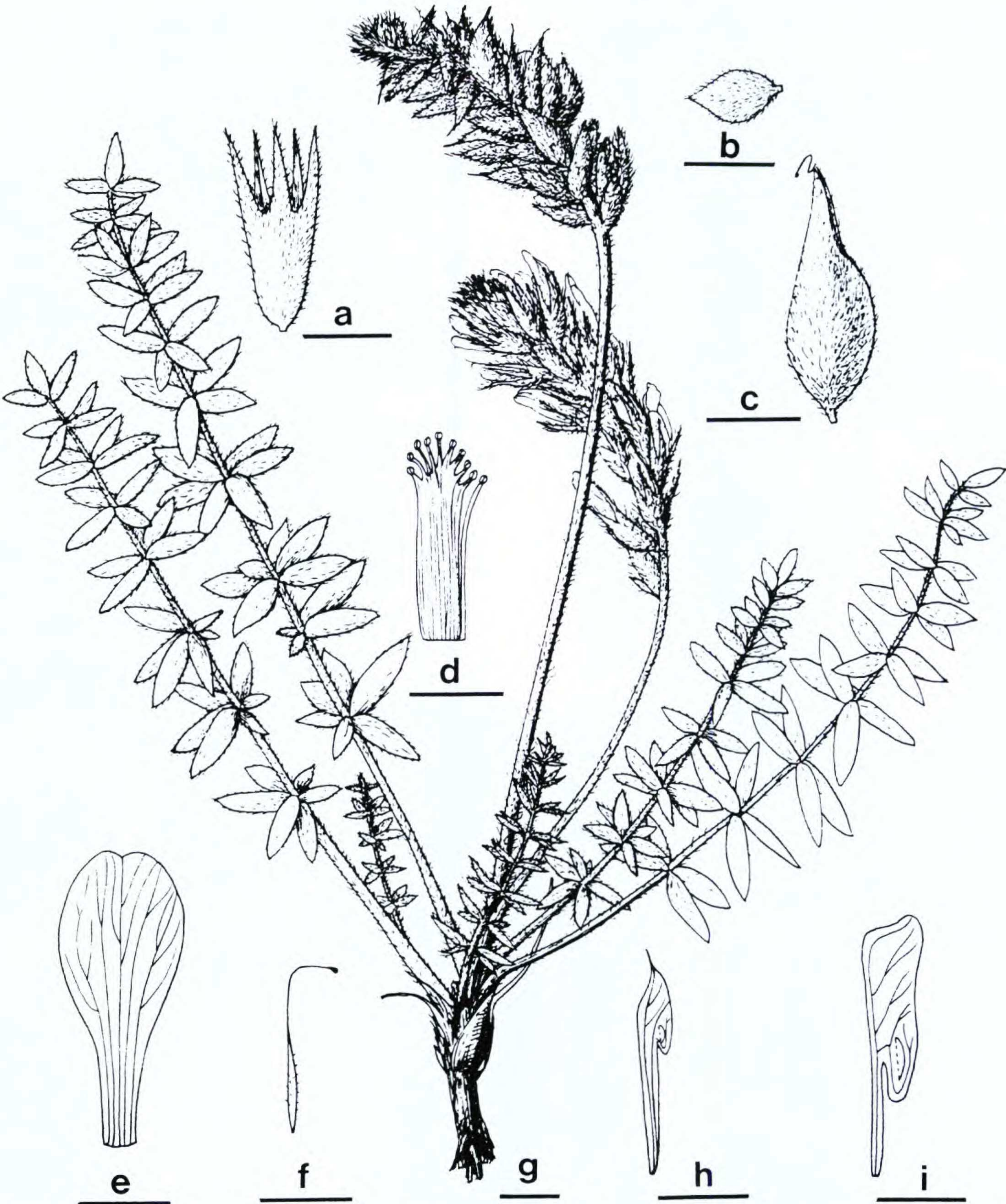


Figure 1. Holotype of *Oxytropis qamdoensis* X. Y. Zhu, Y. F. Du & H. Ohashi. —a. Calyx. —b. Bract (view from outside). —c. Pod. —d. Androecium (view from outside). —e. Standard (view from inside). —f. Gynoecium. —g. Whole of the type specimen. —h. Keel-petal (view from outside). —i. Wing (view from inside). Scale bars = 5 mm in a–f, h, i; 10 mm in g. Drawn from the holotype, X. Y. Zhu & Y. F. Du 20074.

*Oxytropis qamdoensis* differs from *O. ochrantha* by leaflets with 9–11 whorls per leaf (vs. 13–19 whorls per leaf), standard bilobed at apex (vs. rounded at apex), wings emarginate at apex (vs. rounded at apex), beak of keel-petals 1.0–1.5 mm long (vs. 1.5–2.0 mm long), and pods with white-tinged hairs (vs. yellow hairs); it is distinguished

from *O. ochrolongibracteata* by plants small, less than 0.2 m tall (vs. more than 0.4 m tall), flowers white (vs. yellow), and most leaflets verticillate (vs. opposite). This species is also different from *O. bicolor* in having white flowers (vs. blue-purple or pale yellow), calyx lobes as long as its tube (vs. shorter), and pods membranous (vs. coriaceous).



The key to *Oxytropis qamdoensis* and related species is given below.

MAIN DIFFERENCES BETWEEN *OXYTROPIS QAMDOENSIS* AND ITS CLOSE RELATIVES

- 1a. Stipules membranous; pods coriaceous . . . *O. bicolor*
- 1b. Stipules herbaceous; pods membranous.
  - 2a. Plants large, more than 0.4 m tall; most leaflets opposite . . . . . *O. ochrolongibracteata*
  - 2b. Plants small, less than 0.2 m tall; most leaflets verticillate.
    - 3a. Leaflets 13–19 whorls per leaf; standard rounded at apex; wings rounded at apex; beak of keel-petals 1.5–2.0 mm long; pods with yellow hairs . . . . . *O. ochrantha*
    - 3b. Leaflets 9–11 whorls per leaf; standard bilobed at apex; wings emarginate at apex; beak of keel-petals 1.0–1.5 mm long; pods with white hairs . . . . .  
. . . . . *O. qamdoensis*

In August of 2000, Zhu and Du traveled to Xizang and collected this new species. Its population occupied a small place with more or less 20 individuals, which were growing among shrubs on dry

and stony slopes between 3215 and 3250 m and distributed in Qamdo Xian of Xizang. Its distribution in Xizang represents the western limit for this section within China. The species should be protected because of its small population and locality close to a village.

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Literature Cited

Bunge, A. 1874. Species generis *Oxytropis* DC. Mem. Acad. Petersb. VII, ser., 22(1): 1–166.  
Polhill, R. M. 1981. Tribe 16. Galegeae (Bronn) Torrey & Gray (1838). Pp. 357–363 in R. M. Polhill & P. H. Raven (editors), *Advances in Legume Systematics*, Part 1. Royal Botanic Gardens, Kew.  
Zhu X. Y. & H. Ohashi. 2000. Systematics of Chinese *Oxytropis* DC. (Leguminosae). Cathaya 11–12: 1–218.